AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of determining electron tunneling values at various locations in a capacitor structure having at least a first and a second conductive plate with a dielectric material disposed there between, and wherein each said plate has first and second opposite ends, comprising the steps of[[:]]:

determining the nominal tunneling voltage of said dielectric material at the thickness of the dielectric material to provide a target voltage :

applying a first voltage level equally across said first plate ~~of~~ from said first to said second ends;

applying a voltage to said second conductive plate at said first end which is above the target voltage and applying a voltage to said second end of said second plate;

applying incrementally changing voltage levels to said second end of said second plate, which varying voltage levels change the voltage at said second end of said second plate ~~of each set~~ to vary the length of the capacitive structure above said target voltage to localize and measure tunneling leakage at selected locations along said capacitor.

2. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the second plate of is comprised of a plurality of segments.

3. (Currently amended) The ~~invention~~method as defined in claim 2 wherein said first plate is a unitary structure.

4. (Currently amended) The ~~invention~~method as defined in claim 3 wherein the voltages are incrementally changed to correspond to the segments of said second plate.

5. (Currently amended) The ~~invention~~method as defined in claim 3 wherein the ~~second~~ voltage applied to the second end of said second plate is initially less than the target voltage, and is incrementally increased.

6. (Currently amended) The ~~invention~~method as defined in claim 3 wherein the ~~second~~ voltage applied to the second end of said second plate is equal to or greater than the target voltage, and is incrementally decreased.

7. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the first plate is silicon.

8. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the second plate is polysilicon.

9. (Currently amended) The ~~invention~~method as defined in claim 1 wherein the insulating material is less than about 4 nanometers thick.

10. (Currently amended) The ~~invention~~method as defined in claim 2 wherein the first plate is comprised of a plurality of discrete segments corresponding to the segments of the

second plate, and tunneling voltage is measured at each segment of the first plate individually.

11. (Currently amended) The ~~invention~~method as defined in claim 10 wherein a differential amplifier is used to compare the tunneling current is compared between two segments being tested.

12. (Currently amended) The ~~invention~~method as defined in claim 2 wherein the segments of the second plate are electrically interconnected.